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PROJECT PYRALP

TECTONICS RELATIONSHIPS BETWEEN PYRENEES AND ALPS (SOUTHERN FRANCE)

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PROGRESS REPORT

for period December 1973 - January 1974

Report date: february 1974

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Introduction

This progress report concerns a period starting the month when first data from Skylab have been delivered in France.

Field or other studies undertaken during the preceding period are only summarized.

Many informations have been acquired in relation to the project. They will be described later in detail if they are really used for investigations of the Pyralp project.

As soon as they were received, processing of photographic products started, but experience has to be gained and prints are not yet all available for investigators. So geological investigations did not begin in January 1974, they are planned only from February.

There are no authors significant results in this report.

Summary of field studies conducted from July to December 1973.

- Review of geological and geophysical informations published or unpublished. The collect of information has been lead by results obtained from ERTS 1 imagery.

- Study of recent sediments in the Rhone delta : mapping, sample collection, lithological studies, etc. Study of structural setting of the delta.

- Geological study of a part of the Rhone valley. Geological and facies mapping in the Miocene of the Valreas basin.

- Methodological studies in the Test site of Les Vans. Photogeology using repetitive data (spring, summer, autumn) from several sensors.

- Geological interpretation and methodological studies of ERTS-1 data covering the area of Pyralp project.

Data reception

First data from SL 3 concerning Pyralp project (009-3) have been received during December 1973.

1) Tabulations SO22-1, SO32-1, SO52-1

SO22-1: - Roll n° 3307607	SO32-1: - Roll n° 3307817	SO52-1 - Roll n° 3307212
3307702	3307828	3307536
3307887	3307830	3307443
3307992		

2) Screening film SO55-2: - Rolls n° 509, 560, 570

Photographic data have been delivered only during January 1974, they are following 190 A data :

EREP pass n° 32	- 10 frames x 6 cameras
n° 35	- 21 " x 6 "
n° 52	- 12 " x 6 "

- Tabulations

In the SO22-1 tabulations some informations are lacking

- Roll n° 33.07702 - No informations about frame n° 318
- Roll n° 33.07887 and 33.07992 - No informations about
n° 328 and 329

- Screening films SO55-2

Screening films copies have been disseminated to investigators for selection of interesting intervals and sensors. After a careful comparison with the later received photographic products (S 190A) data requirements will be established and transmitted to PIMO.

Photographic data - S 190 A

Localisation and short comments on the photos :

- EREP pass n° 32

- 316 - Atlantic ocean between Madeira island and Portugal (cloud cover: 40%)
- 317 - Portugal, western coast - Lisboa, 50% over the sea (c.c. 10%)
- 318 - Spain - Ebro river valley between Tudelo and Lograno - Northern part of the Iberica meseta - southern part of the spanish Pyrenees (c.c. 0%)
- 319 - Spain - France - Western Pyrenees mountains - Adour river valley - Cities of Pau and Tarbes - Oil and gas field of Lacq (c.c. 0%)
- 320 - France - Aquitanian basin - Garonne river valley - City of Toulouse - Part of the central Pyrenees (c.c. 0%)
- 321 - France - Southern Massif Central - Tarn river - Border of the sedimentary cover of Aquitanian basin resting on the cristalline paleozoic rocks (c.c. 0%)
- 322 - France - Massif Central - Volcanic area of Aubrac - Rhone and Loire valleys (c.c. 5%)
- 323 - France - Rhone-Alps area - Cities of Lyon and Grenoble - South eastern Massif Central - Intensively folded zone of outer Alps - Metamorphic massifs of Pelvoux and Belledonne (c.c. 10%)
- 324 - France - Italy - Switzerland - Rhone and Po basins - Mont Blanc massif (highest point of western Alps) (c.c. 10%)
- 325 - Italy - Switzerland - Alps mountains - High valley of the Rhone river (c.c. 10%)
- 326 - Italy - Switzerland - Austria - Central Alps (c.c. 20-30%)

- EREP pass n° 35

- 66 and 67 - Spain (cloud cover 100%)
- 68 - Spain (c.c. 95%)
- 69 - Spain (c.c. 85%). Only a small part of the Ebro river is visible.
- 70 - Spain - Mediterranean coast, 20% over the sea - City of Barcelona (c.c. 50%)
- 71 - Spain - Mediterranean coast, 15% over the sea - City of Barcelona (c.c. 20%)

- 72 - Spain and France - Eastern Pyrenees - Mediterranean coast between Barcelona and Perpignan - Cap Creus (c.c. 20%)
- 73 - Spain and France - Mediterranean coast up to Agde to the North, 60% over the Lions Gulf (c.c. 20%)
- 74 - France - Lions gulf (90% over the sea) - Mediterranean coast from Cap Creus to Rhone delta (c.c. 5%)
- 75 - France - Rhone delta - Lions gulf (70% over the sea) - Mediterranean coast from Agde to Toulon (c.c. <5%)
- 76 - France - Provence folded area - Mediterranean coast from the Rhone delta to St Tropez (40% over the sea) - Middle Durance valley in the northern part (c.c. 5%)
- 77 - France - Southeastern Alps - Mediterranean coast from Marseille to Nice - Serre-Ponçon dam near the northern edge (c.c. 5%)
- 78 - France - Italy - Coast from St Tropez to Imperia (c.c. 30%)
- 79 - France - Italy - Coast from Cannes to east of Genova (c.c. 30%)
- 80 - Italy - Po river plain - Gulf of Genova (c.c. 30%)
- 81 - Italy - Po river plain - City of Milano - Gulf of Genova - La Spezia (c.c. 30%)
- 82 - Italy - Po river plain - Cities of Milano, Mantua - Lake of Garde (c.c. 30%)
- 83 - Italy - Po river plain - City of Mantua (c.c. 30%)
- 84 - Italy - Italian Alps - Po river plain - Gulf and city of Venezia (c.c. 20%)
- 85 - Italy and Yugoslavia - Gulfs of Venezia and Trieste (c.c. 10%)
- 86 - Yugoslavia and Austria - Cities of Trieste and Klagenfurt
Contact between Alps and Dinarids (c.c. 5%)

- EREP pass n° 52

- 326 - Gascogne gulf - Entirely over the sea
- 327 - France - Area of Bordeaux - Aquitanian basin - 30% over the ocean - Atlantic coast from Parentis to the North of the mouth of Gironde - Arcachon basin - Oil fields of Parentis area (c.c. 30%)
- 328 - France - Aquitanian basin - Garonne river valley (c.c. 70%)
- 329 - France - Same area - City of Toulouse (c.c. 70%)
- 330 - France - Mediterranean coast - Lions gulf - Coast from Perpignan to Rhone delta (c.c. 20%) 40% is over the sea
- 331 - France - Lions Gulf - 95% over the sea - Coast between Fos/mer and Toulon (c.c. 60%)
- 332 - Mediterranean sea
- 333 - France - Italy - Southwestern Corse and northwestern Sardinia - 90% over the sea (c.c. 40%)
- 334 - France - Italy - Northern Sardinia - South Eastern Corse (c.c. 10%)

335 - Italy - Eastern Sardinia - 90% over the sea (c.c. 20%)

336 - Mediterranean sea

337 - Italy - Northwestern Sicilia - Cities of Trapani, Palermo (c.c. < 10%)

General comments about data

Most of the area of interest for investigations proposed by Pyralp project (009.3) has been covered by S 190 A photographs from SL 3 mission.

Between the two main passes (n° 32 and 35) however is a triangular gap, 40 km large, near the Spain border, ending near Turin 500 km North-eastward. The third pass n° 52 covers only a part (175 km long) of the gap. It is hoped that this will not be a great trouble for investigations using S 190 A and S 190 B data.

But for imagery from MSS S 192 the gap is larger (up to 100 km) and different areas of great interest are in it :

- Area where ground truth have been collected last summer :
 - geological study of the miocene basin of Valreas
 - recent sediments study in the Rhone delta
 - meteorological ground truth
 - area of repetitive plane photos
- Area where processing digital tapes of ERTS 1 have been conducted.

This justified a telex (dec. 21, 1973) suggesting a complementary pass of SL 4 between the two tracks n° 32 and 35 of SL 3.

Processing of photographic data S 190 A needs longer times than previously expected.

Experiments have been undertaken and are still now in progress to obtain the largest and the best prints from the excellent S 190 data products (70 mm negative and positive films). At the end of january only photos of a 1/800 000 scale have been printed, a larger scale must be obtained.

Planning for the next months

- 1) - Magnifying and printing photographic products from S 190 A
 - Diffusion of photographic data to the investigators
- 2) - Conventional photointerpretation at different scale using different S 190 A data products
 - Drawing photogeological and structural maps
- 3) - Comparing with field data and ERTS 1 data
- 4) - Composite color processing - Optical filtering
- 5) - Selection of S 192 data to be used for analysis

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○ Ground truth collected

▨ Geological studies

Kilometers
0 25 50 100

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